# 2007 Annual Water Quality Report

## City of Falls Church
## Department of Environmental Services

## Dear Valued Customer:

We are pleased to present the following summary detailing the quality of the water provided to you over the past year. The Safe Drinking Water Act (SDWA) requires utilities to issue an annual "Consumer Confidence" report to customers in addition to other notices that may be required by law. This report specifies where our water comes from, what it contains, and the risks our water testing and treatment efforts are designed to prevent. The City of Falls Church Department of Environmental Services is committed to providing you with a safe, dependable, and sufficient water supply at reasonable rates. **Drinking water supplied by the City of Falls Church Department of Environmental Services meets or surpasses all federal and state drinking water standards.**

*El informe contiene información importante sobre la calidad del agua en su comunidad. Tradúzcalo o hable con alguien que lo entienda bien.*

*Ban bao cao co ghi nhung chi tiet quan trong ve pham chat nuoc trong cong dong quy vi. Hay nho nguoi thong dich, hoac hoi mot nguoi ban biet ro ve van de nay.*

Informed consumers are our best allies in maintaining safe drinking water. More information is available online at www.drinktap.org and at www.epa.gov/safewater. If you have any questions about this report, please contact Matthew Jacobi at 703-248-5070 (TTY 711) or mjacobi@fallschurchva.gov. This report is also published on the City's Web site at www.fallschurchva.gov.

For information about the next opportunity for public participation in decisions about your drinking water, please call 703-248-5070 (TTY 711). Falls Church City Council meetings are generally held the second and fourth Mondays of each month at 7:30 p.m. in City Hall, located at 300 Park Ave., Falls Church VA 22046.

Wyatt Shields
City Manager

### What Is the Source of My Drinking Water?

In 2006, the City of Falls Church Department of Environmental Services was supplied by the Washington Aqueduct which draws water from the Potomac River, and Fairfax Water which draws water from the Potomac River and the Occoquan Reservoir. The Washington Aqueduct also supplies water to Arlington County and the District of Columbia.

A detailed source water assessment to find better ways to protect the water sources for the Washington Aqueduct was completed in 2005. It contains information about potential sources of contamination and measures to reduce/eliminate those sources. A source water assessment for Fairfax Water was completed by the Virginia Department of Health in 2002. The Potomac River and the Occoquan Reservoir were determined to be of high susceptibility to contamination using the criteria developed by the state in its approved Source Water Assessment Program, which is consistent with the state's finding of other surface waters (rivers, lakes, streams) throughout Virginia. The assessment report consists of maps showing the source water assessment area, an inventory of known land use activities of concern, and documentation of any known contamination within the previous five years. Information about these assessments is available by contacting the City's Public Utilities Division.

*Note: The City of Falls Church ended temporary purchases from Fairfax Water in February 2007 with the completion of the Tysons Capital Improvements Project.*

### How Do I Read the Charts Below?

The City of Falls Church and our water suppliers routinely monitor for constituents in your drinking water according to federal and state laws. The first table shows the results from monitoring that that we conducted, while the second table shows the results of monitoring by the Washington Aqueduct and Fairfax Water.

In the tables you will find many terms and abbreviations that are unfamiliar. To help you better understand these terms, we've provided the following definitions:

**Maximum Contaminant Level or MCL:** The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

**Maximum Contaminant Level Goal or MCLG:** The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

**Maximum Residual Disinfectant Level or MRDL:** The highest level of a residual disinfectant that is allowed in drinking water.

**Maximum Residual Disinfectant Level Goal or MRDLG:** The level of residual disinfectant below which there is no known or expected risk to health. MRDLGs allow for a margin of safety.

**Detected Level:** The highest level detected of a contaminant for comparisons against the acceptance levels for each parameter. These levels could be the single highest measurement, or an average of values, depending on the contaminant.

**Action Level (AL):** The concentration of a contaminant, which, if exceeded, triggers treatment; or other requirement that a water system must follow.

**Non-Detects (ND):** Laboratory analysis indicates that the constituent is not present.

**Treatment Technique (TT):** A required process intended to reduce the level of a contaminant in drinking water.

**Parts per billion (ppb):** One part per billion corresponds to a single penny in $10,000,000.

**Parts per million (ppm):** One part per million corresponds to a single penny in $10,000.

**Picocuries per liter (pCi/L):** Picocuries per liter is a measure of the radioactivity in water.

**FINISHED WATER CHARACTERISTICS, CITY OF FALLS CHURCH DISTRIBUTION SYSTEM MONITORING** — **TABLE 1**

| Substance | Unit | MCLG | MCL | Reporting Level | Range | Major Sources |
|---|---|---|---|---|---|---|
| Total Coliform | % of samples | 0 | 5 | 2 | N/A | Naturally present in environment |
| Chloramines | ppm | (MRDLG) 4 | (MRDL) 4 | 3.56 | N/A | Water additive used to control microbes |
| Copper[1] | ppm | 1.3 | 1.3 | 0.07 | ND - 0.12 | Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives |
| Lead[1] | ppb | 0 | 15 | 1.7 | ND - 12.5 | Corrosion of household plumbing systems; leaching from wood preservatives |
| Total Trihalomethanes | ppb | 0 | 80 | 34 | 5 - 63 | Byproduct of drinking water chlorination |
| Haloacetic Acids | ppb | 0 | 60 | 24 | 4 - 43 | Byproduct of drinking water chlorination |

**FINISHED WATER CHARACTERISTICS, SOURCE MONITORING** — **TABLE 2**

| | | | | Washington Aqueduct | | Fairfax Water | | |
|---|---|---|---|---|---|---|---|---|
| Substance | Unit | MCLG | MCL | High. Level Detected | Range | High. Level Detected | Range | Major Sources |
| Alpha Emitters[2] | pCi/L | 0 | 15 | 2.1 | ND - 2.1 | 1.6 | 0.2 - 1.6 | Erosion of natural deposits |
| Arsenic | ppb | N/A | 10 | 0.7 | ND - 0.7 | ND | ND | Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes |
| Atrazine | ppb | 3 | 3 | 0.2 | ND - 0.2 | 0.09 | ND - 0.09 | Runoff from herbicide used on row crops |
| Barium | ppm | 2 | 2 | 0.04 | 0.03 - 0.04 | 0.04 | 0.03 - 0.04 | Erosion of natural deposits; discharge from metal refineries; discharge of drilling wastes |
| Beta/photon emitters[3] | pCi/L | 0 | 50 | 3.8 | ND - 3.8 | 4.9 | ND - 4.9 | Decay of natural and man-made deposits |
| Chromium | ppb | 100 | 100 | 1.3 | ND - 1.3 | ND | ND | Erosion of natural deposits; discharge from steel and pulp mills |
| Fluoride | ppm | 4 | 4 | 1.2 | 0.07 - 1.2 | 1.5 | 0.6 - 1.5 | Water additive which promotes strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories |
| Hexachlorocyclopentadiene | ppb | 50 | 50 | 0.05 | ND - 0.05 | 0.07 | ND - 0.07 | Discharge from chemical factories |
| Mercury | ppb | 2 | 2 | ND | ND | 0.07 | ND - 0.7 | Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland |
| Nitrate | ppm | 10 | 10 | 2.9 | 0.4 - 2.9 | 2.4 | 0.3 - 2.4 | Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits |
| Nitrite | ppm | 1 | 1 | 0.05 | ND - 0.05 | 0.06 | ND - 0.06 | Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits |
| Radium 226/228[4] | pCi/L | 0 | 5 | 0.8 | ND - 0.8 | 1.2 | 0.2 - 1.2 | Erosion of natural deposits |
| Selenium | ppb | 50 | 50 | 0.7 | ND - 0.7 | ND | ND | Erosion of natural deposits; discharge from petroleum refineries; discharge from mines |
| Simazine | ppb | 4 | 4 | 0.08 | ND - 0.08 | ND | ND | Herbicide runoff |
| Total Organic Carbon | ratio | N/A | TT[5] | 1.8[6] | 1.2 - 2.4 | 1.6[6] | 0.6 - 1.6 | Naturally present in the environment |
| Turbidity | NTU | N/A | TT | 0.13[7] | 0.09[9] | 0.5[8] | 0.07[9] | Soil runoff |

### Water Quality Table Footnotes

1) No samples exceeded the Action Level.
2) Washington Aqueduct data from 2002. Fairfax Water data from Corbalis, Lorton & River Station plants in 2003, and Griffith plant in 2006.
3) The MCL for Beta particles is written as 4 mrem/year. EPA considers 50 pCi/l to be the level of concern for Beta particles. Washington Aqueduct data from 2005. Fairfax Water data from Lorton/Occoquan plants in 2003, Corbalis plant in 2005, and Griffith plant in 2006.
4) Washington Aqueduct data from 2005. Fairfax Water data from Corbalis, Lorton & River Station plants in 2003, and Griffith plant in 2006.
5) Total Organic Carbon has no health effects. However, it provides a medium for the formation of disinfection byproducts, which include Total Trihalomethanes and Haloacetic acids.
6) Level reported for Total Organic Carbon (TOC) is Quarterly Running Annual Average (QRAA) of the monthly ratio of TOC removal versus required TOC removal between source and treated waters. A QRAA of 1 or greater is to be in compliance.
7) 100 percent of samples tested were below the TT level of 0.3 NTU. Any single measurement in excess of 1.0 NTU is a violation unless otherwise approved by the state. The single highest measurement of 0.13 NTU is reported here.
8) 100 percent of samples tested were below the TT level of 0.3 NTU. Any single measurement in excess of 1.0 NTU is a violation unless otherwise approved by the state. The single highest measurement of 0.5 NTU is reported here.
9) Number reported here is average effluent turbidity.

### Key To Tables

**AL** = Action Level
**MCL** = Maximum Contaminant Level
**TT** = Treatment Technique
**MCLG** = Maximum Contaminant Level Goal
**MRDL** = Maximum Residual Disinfectant Level
**ppb** = parts per billion, or micrograms per liter (µg/l)
**NTU** = Nephelometric Turbidity Units
**MRDLG** = Maximum Residual Disinfectant Level Goal
**mrem/year** = millirems per year
**pci/l** = picocuries per liter (a measure of radioactivity)
**ND** = none detected
**ppm** = parts per million, or milligrams per liter (mg/l)
**N/A** = not applicable

## About *Cryptosporidium*

*Cryptosporidium* is a single-celled organism that lives and reproduces within the intestines of an animal host. During its lifecycle it matures into cells called oocysts. Exposure to oocysts can result in a disease called *crypotosporidosis*, which can cause diarrhea, cramps, loss of appetite, weight loss, nausea and a low-grade fever. The City's water providers have completed monitoring for *cryptosporidium* in the source water before treatment to comply with the EPA's Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR). In 2006, the Washington Aqueduct did not detect any *cryptosporidium* and Fairfax Water detected an average concentration of 0.026 oocysts/liter in source water from the Potomac River and 0.021 oocysts/liter in source water from the Occoquan Reservoir. Under the LT2ESWTR, a *Cryptosporidium* concentration of 0.075 oocysts/liter triggers additional water treatment measures. The levels found by both of the City's water providers are below this threshold.

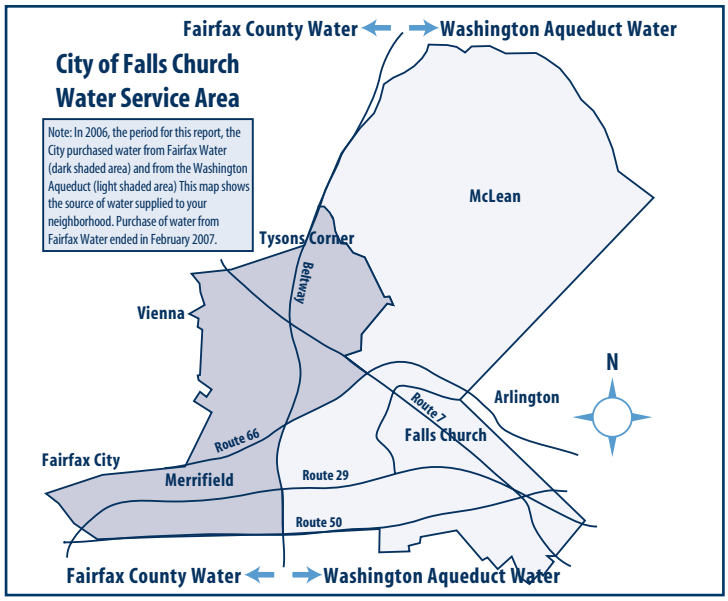
## Important Health Information About Drinking Water

To ensure that tap water is safe to drink, EPA prescribes limits on the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban storm runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, stormwater runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organics, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff and septic systems.
- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.




## Should Some People Take Special Precautions?

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Some people may be more vulnerable to contaminants in drinking water than is the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *cryptosporidium* are available from the Safe Drinking Water Hotline (800-426-4791).

## Want More Information?

If you have any questions about this report, or need more information, please let us know.

| | |
|---|---|
| Utilities Customer Service Division (billing questions): | 703-248-5071 (TTY 711) |
| Public Utilities Division (technical questions): | 703-248-5070 (TTY 711) |
| This report may be viewed on the Web at: | www.fallschurchva.gov |

Please address correspondence to:

**City of Falls Church**
**Department of Environmental Services**
**Public Utilities Division**
**300 Park Avenue**
**Falls Church, VA 22046**

## Policy of Non-Discrimination on the Basis of Disability

The City of Falls Church does not discriminate on the basis of disability in its employment practices or in the admission to, access to, or operation of its services, programs, or activities. Letha Flippin, 300 Park Avenue, Falls Church, Virginia 22046 has been designated to coordinate compliance with the ADA non-discrimination requirement.

Postal Customer

City of Falls Church
Department of Environmental Services
Public Utilities Division
300 Park Avenue
Falls Church, Virginia 22046

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# 2007 Annual Water Quality Report

**This report contains very important information about your drinking water. Please translate it, or speak with someone who understands it.**

**El informe contiene información importante sobre la calidad del agua en su comunidad. Tradúzcalo o hable con alguien que lo entienda bien.**

**Ban bao cao co ghi nhung chi tiet quan trong ve pham chat nuoc trong cong dong quy vi. Hay nho nguoi thong dich, hoac hoi mot nguoi ban biet ro ve van de nay.**